

Children & Croup

What is Croup?

Croup (laryngotracheitis) is a viral infection that usually affects infants and children between the ages of 3 months to 6 years. Croup is more common in boys than in girls. Croup often follows a cold, although croup may begin without cold symptoms. This illness is most often seen in the fall and winter. Croup may recur during childhood, but attacks tend to disappear as the child grows.

Croup is more a symptom than a diagnosis. Croup involves inflammation and swelling of the subglottic space (the area directly below the vocal cords in the throat area). It frequently causes a barking cough (called a “croup cough”) and stridor (a harsh high-pitched sound from the windpipe while breathing in), along with other symptoms. When it extends into the bronchi and causes lower airway symptoms, it is called laryngotracheobronchitis. Croup can be caused by a variety of viral infections, including parainfluenza, influenza (H1N1 and seasonal forms), respiratory syncytial virus (RSV), rhinovirus and a variety of other childhood respiratory viruses. Therefore it is possible, for example, for your child to “have” both croup and influenza. Croup can range from mild, treatable symptoms at home, to severe disease requiring hospitalization.



Another condition called recurrent croup or spasmodic croup may not be caused by infection and is often managed by pediatric lung specialists. Children with this condition often present with numerous episodes of croup-like cough which are short-lived and not associated with other signs of respiratory infection. Children typically outgrow these symptoms, but medical evaluation may be important to determine the correct diagnosis.

What Are Common Symptoms of Croup?

Common symptoms of croup include a barking cough, a hoarse voice and stridor (a harsh sound from the windpipe while breathing in). These symptoms are typically caused by swelling in the throat and windpipe (trachea). Symptoms are worse in the evening and at night. Croup may last from several days to a week or more. Croup can be mild, moderate or severe.

If croup begins to worsen, these symptoms can intensify, and new symptoms can arise. Symptoms of worsening croup may include:

- Increased stridor. Your child may have stridor even at rest, or the stridor may be louder and more frequent.
- Skin changes. You may see your child’s skin pulling in below the neck or between the ribs while breathing in (retractions)
- Trouble talking. Your child may have difficulty talking, or, if your child is too young to talk, he or she may have difficulty making normal sounds.

- Blueness around the lips or nail beds (cyanosis). This could indicate a lack of oxygen, and can be very serious.
- Drooling. If your child is drooling, this is a sign that the croup is becoming more severe.
- High fever. Keep a close eye on your child's temperature. A fever of 103 degrees F or higher means you should call the doctor right away
- Having trouble breathing in general. If your child is having trouble breathing, don't wait. Call 911.

If your child has any of these symptoms, it is important to seek medical care right away.

Can Croup Be Prevented?

Since the causes of croup are similar to the common cold and flu, similar prevention strategies work. Here are a few important steps you can take to reduce the risk:

- Proper hand-washing for both you and your child is very important.
- You and your child should stay away from people who are ill.
- Make sure your child get the recommended vaccines, including the flu vaccine. Get the flu vaccine yourself.

Treatment of Croup at Home

Home treatment remedies may include treatment with cool mist which may help symptoms. Cool mist therapy may be delivered by placing a vaporizer or humidifier in the child's bedroom. If you use a vaporizer or humidifier, remember to clean it following the manufacturer's instructions. Another option may be to run the shower or tub water in the bathroom with the door closed for fifteen minutes or so. Then sit in the bathroom with your child. These home remedies create an environment high in humidity to help symptoms.

In addition to cool mist therapy, your child should receive adequate rest and drink plenty of fluids. Because crying can increase croup symptoms, care should be taken to comfort and soothe the child.

Finally, it is very important to closely monitor the child with croup. Talk with your doctor if your child has symptoms of croup to see if your child should be seen. Parents should be aware of symptoms of worsening croup.

Treatment of Croup at the Doctor's Office or Hospital

There are a number of medicines that may be used when a child is seen in the doctor's office or hospital. They include:

- **Corticosteroids** can decrease swelling in the throat and windpipe to improve symptoms of croup. Corticosteroids may be given as a pill, liquid or as a shot. They may also be given as an inhaled treatment.
- **Racemic epinephrine** can also decrease swelling briefly. Racemic epinephrine is given in an inhaled treatment at the emergency department or inpatient unit.
- **Antibiotics** (Used only when concerned about secondary bacterial infections). Antibiotics are not used first line for croup because croup is often caused by a viral infection. If your doctor is concerned about a bacterial cause, antibiotics may be prescribed.
- **Tamiflu** (Oseltamivir): Used for influenza (suspected if child has fever and cough). Influenza may be suspected if it is present in the community.

In addition to medicines, your child can be monitored closely in the doctor's office or the hospital. Doctors and nurses can ensure your child is breathing well and receiving enough oxygen and fluids. This is important in more severe cases of croup.

The HIB vaccine is given routinely. This vaccine is helpful in preventing a number of illnesses. One illness is epiglottitis, which is a severe, often lethal form of croup. Inform your doctor if your child has not received this

vaccine and has worsening symptoms like those described below.

Danger Signs

These could indicate epiglottitis or bacterial tracheitis, true medical emergencies, or impending respiratory failure or a combination of these. Any of these complications requires immediate medical evaluation and may require treatment by a doctor skilled in pediatric intubation (that is, a pediatric anesthesiologist, ENT specialist or pulmonologist), preferably in an experienced pediatric emergency center.

- Very high fever (103-104 degrees F or higher)
- Drooling (unable to swallow)
- Extremely labored breathing
- Cyanosis (blue color) or pallor
- Lethargy or loss of consciousness

National Jewish Health & Croup

National Jewish Health is a recognized leader in the care and treatment of children with respiratory illnesses. The doctors and nurses at National Jewish Health realize that croup can be frightening for the entire family and have different levels of care that can help you manage this illness. Nurses at LUNG LINE®, 1.800.222.LUNG can answer your questions about croup and other respiratory illnesses.

Visit our website for more information about support groups, clinical trials and lifestyle information.

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